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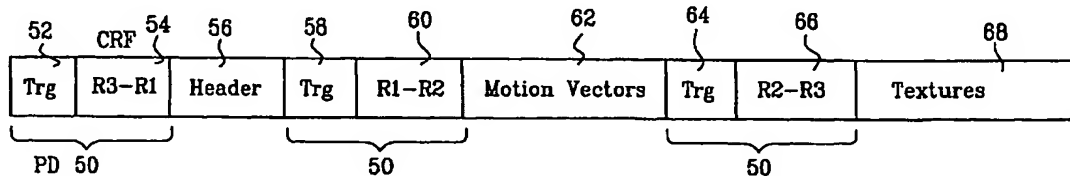
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ROBUST SIGNAL CODING



(57) Abstract: The present invention concerns methods and devices for coding and decoding a coded data stream as well as a signal format for a coded data stream. The coded data stream includes at least one high-level data packet having partitions of data (56, 62, 68) requiring different protection rates. Partition detectors (50) are inserted between two such partitions by a partition detector inserter, in order to provide guidance for coding the partitions with different protection rates. Information about the code rates used for the different fields is extracted by a controller on the receiving side in order to decode the partitions with the right code rate.

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## INTERNATIONAL SEARCH REPORT

 Intern  Application No  
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 A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 H03M13/35 H04N7/64

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

 Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 H03M H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JIANFEI CAI ET AL: "An FEC-based error control scheme for wireless MPEG-4 video transmission" PROCEEDINGS OF IEEE CONFERENCE ON WIRELESS COMMUNICATIONS AND NETWORKING, vol. 3, 23 September 2000 (2000-09-23), pages 1243-1247, XP010532724 CHICAGO, USA page 1243, column 2, line 11 - line 36 ----- -/--	1-18

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

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\*Z\* document member of the same patent family

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MARTINI M G ET AL: "Proportional unequal error protection for MPEG-4 video transmission" ICC 2001. 2001 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS. CONFERENCE RECORD. HELSINKY, FINLAND, JUNE 11 - 14, 2001, IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, NEW YORK, NY : IEEE, US, vol. VOL. 1 OF 10, 11 June 2001 (2001-06-11), pages 1033-1037, XP010553486 ISBN: 0-7803-7097-1 page 1034, column 1, line 28 - column 2, line 38; figure 1 -----	1-18
A	HEINZELMAN W R ET AL: "Unequal error protection of MPEG-4 compressed video" IMAGE PROCESSING, 1999. ICIP 99. PROCEEDINGS. 1999 INTERNATIONAL CONFERENCE ON KOBE, JAPAN 24-28 OCT. 1999, PISCATAWAY, NJ, USA, IEEE, US, 24 October 1999 (1999-10-24), pages 530-534, XP010369005 ISBN: 0-7803-5467-2 cited in the application page 531, column 1, line 25 - line 36; figure 1 page 532, column 1, line 3 - line 6 -----	1,11, 15-18
P,A	WO 02 07325 A (KONINKL PHILIPS ELECTRONICS NV) 24 January 2002 (2002-01-24) cited in the application page 1, line 1 - page 9, last line -----	1,11, 15-18

# INTERNATIONAL SEARCH REPORT

Annex on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0207325	A	24-01-2002	
		AU 8196301 A	30-01-2002
		BR 0106979 A	21-05-2002
		CN 1386330 T	18-12-2002
		WO 0207325 A1	24-01-2002
		EP 1303918 A1	23-04-2003
		TR 200200680 T1	23-09-2002
		US 2002012360 A1	31-01-2002

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